

PSLA / CFF Pre-Conference

April 15, 2010

Knowledge Building Centers Handout

David V. Loertscher

This handout is from the appendices of the following book to be released April 20, 2010:

Building the Learning Commons: A Guide for School Administrators and Learning Leadership Teams A Whole School Approach to Learning for the Future. Carol Koechlin, Esther Rosenfeld, David V. Loertscher. ISBN: 978-1-933170-59-6. Hi Willow Research & Publishing, 2010.

and its companion:

The New Learning Commons Where Learners Win! Reinventing School Libraries and Computer Labs David V. Loertscher, Carol Koechlin and Sandi Zwaan; ISBN: 978-1-933170-40-4; Hi Willow Research and Publishing; 2008.

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Appendix D

Knowledge Building Centers

Knowledge Building Centers are places where classroom teachers, students, teacher librarians, teacher technologists, other specialists, experts, and/or parents are all collaboratively working together on a learning experience, a school initiative, a professional development experience, or a global project.

The KBC utilizes an online template that helps coordinate the work of all the partners and can be accessed by everyone 24/7. The template can be used for face-to-face instruction or online instruction since it becomes the organizing element of the project.

As an organizing template, the KBC can be constructed in a variety of technologies. We have built our example here in Google Sites, but it could be done in Moodle, a blog, a wiki, or other website construction software. A screen shot of the KBC is on the following pages. The template itself can be accessed at:

<https://sites.google.com/site/knowledgebuildingcenter/>

List of work areas in the template:

- Project Description (center)
- Tools/Tutorials
- Work Spaces
- Assessment
- Calendar
- Communication
- Tours
- Comments, questions, tips
- Resources
- Products
- Models
- Museum
- Lesson Plans
- Reflection

Topic of Assignment (edit this line...)

Use this template

URL of template

Search this site

Topic of Assignment (edit this line...)

Put your assignment / essential question / problem / challenge / or a student-constructed challenge here:

Work Areas

Project Description Here

Work Areas

Conversation

Comments, Questions, and Tips About the Assignment

Topic of Assignment (edit this line...)

Here is our home for building knowledge together about our topic. Please use and contribute helps, tools, ideas, comments, and your finished project.

Use the various links around the page to help yourself and others.

Tools..Tutorials

Work Spaces

Assessment

Calendar

Communication

Tours

Work Spaces

Sitemap

Lesson Plans

Models

Museum

Products

Reflection

Resources

Tools..Tutorials

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Knowledge Building Center

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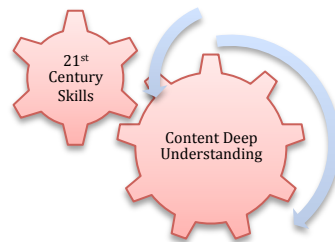
Museum

Lesson Plans

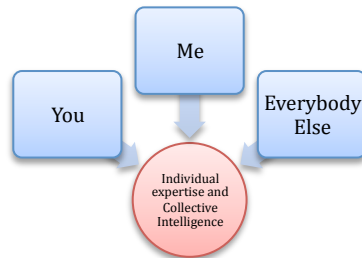
Reflection

Characteristics of a Knowledge Building Center

- Objective: to create personal and collaborative inquiry environment, whether the learning experience is a face to face or totally online experience.
- To provide a structure that naturally invites teacher librarians, teacher technologists, and other school specialists to be at the center of teaching and learning alongside of teachers and students.
- Can be built and used with a number of existing technologies/software/Web 2.0 tools
- The structure of the KBC invites conversation and collaborative work on a problem, project, research idea, inquiry assignment, Webquest, iSearch project, etc.
- The conversation created in a Knowledge Building Center occurs among classroom teachers, students, teacher librarians, teacher technologists, other adult specialists in the school, experts, and parents.
- Everyone contributes as if the place were some type of Wikipedia.
- It is all about what I am able to learn on my own; what I can help others learn; and what we can all learn together.
- The project promotes mastery of 21st Century Skills that in turn drive deep understanding:



- Individual expertise is combined with other's expertise to build collective intelligence:



- The technology used is designed to boost both 21st century skills and promote deep understanding.
- The Instructional design includes the very best principles of engagement and high-level learning experiences such as Understanding by Design, Think models (Loertscher, Koechlin, Zwaan), Inquiry, Differentiation.
 - –Note: Direct teaching of prescribed basic content does not usually work in a KBC
- The Knowledge Building Center connects into the student's personal learning network (PLN) such as:
 - –iGoogle page
 - –Personally constructed personal space
- The KBC is available to students and adults anywhere, at any time, and on any preferred device.
- The creation of a KBC is simple, almost instantaneous, and easy to use.
- The KBC interface requires very little if any instruction on how to use and participate.
- The learning experience in a KBC utilizes formative assessment strategies to provide guidance to teachers and students along the way.
- The learning experience ends with a Big Think (Loertscher, Koechlin, Zwaan).
- Data from the formative and Big Think provides evidence of both deep understanding of the content and progress on the learning of 21st century skills. This evidence folds into other measures of academic achievement used in the school or district.
- Impact of success is broadcast widely.

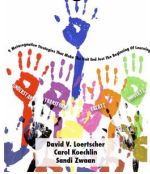
Appendix C

The Big Think

The excitement of the game has ended. Win or lose, the coaches have had a video made of the game. Now, in a meeting of coaches and players, egos are parked at the door. Everyone watches the rerun doing analysis and synthesis: What patterns emerge? So what? What's next? If individual payers, or the team, or the coaches do not participate and act on what has been viewed, then no one gets better.

Likewise, after a major learning experience; after the grades are in; adults and students need to engage in metacognitive reflection about that learning experience. What do I know? What do we know? How did I learn? How did we learn? So what? What's next? If student don't reflect, they don't get better. If the adults involved don't reflect, they don't get better either.

The Big Think



In the book: ***The Big Think: 9 Metacognitive Strategies That Make the End Just the Beginning of Learning*** by David V. Loertscher, Carol Koechlin, and Sandi Zwaan (Hi Willow Research and Publishing; 2009; ISBN 978-1-933170-45-9), nine strategies have been developed for collaborative reflection by classroom teachers, students, teacher librarians, teacher technologists, other adult specialists, experts, and/or parents to reflect.

The big think consists of three activities:

- Reflection on what we know about the content/topic of the learning activity
- Reflection on the learning how to learn or 21st century skills we developed during the experience
- The adult's reflection as coaches on what was learned and how it was learned with follow-up plans for improvement.

On the following two pages, the flow chart of a big think has been provided followed by a planning sheet as a capsule summary of the possibilities.

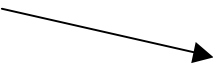
The Nine Strategies

1. Active Discussion
2. Create New Questions
3. Higher Order Thinking
4. Interact with an Expert
5. New Problem or Challenge
6. Thoughtful Writing
7. Construct Visuals
8. Re-Create
9. Sandbox

Big Think
Collective Synthesis Activities



- Possible Activity Strategies**
- Active discussion
 - Construct Visuals
 - Thoughtful Writing
 - Higher Order Thinking
 - Create New questions
 - Interact with an Expert
 - Re-Create
 - New Problem or Challenge
 - Sandbox



So What?
Student Activity

So What?
Student Activity

So What?
Teaching Partners

Deep Understanding of Topic

What I know
What we know

Why is this important?

Progress of Learning Skills

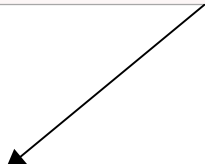
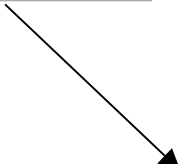
How I learned what I know
How we learned what we know

Why is this important?

Reflection on Co-Teaching

What they learned
How they learned it

Why is this important?



What Next?

How else can we use this learning?
How can we do better next time?

* * The Big Think Planner * *

Topic:.....Grade:.....

Essential
Question(s).....

Unit
Overview:.....

.....

.....

Describe the *Content* Big Think Activity:

So What?

What Next?

Describe the *Process* Big Think Activity:

So What?

What Next?

▪

The Nine Big Think Strategies

Nine Metacognitive Strategies that Make the Unit End Just the Beginning of Learning

Strategy	What?	Why?	How?
Teachers and learners think about content and process	The information to knowledge journey	Knowledge building and real growth	Make connections as a group between what I know and what we discovered. Develop what we now know.
Active Discussion	Small and large group face to face and/or virtual discussion ignited by a question or scenario	To develop, clarify, interpret, empathize, defend, understand	Informal discussion, formal panel, debate, press conference, blog, wiki, interactive video conferencing etc.
Create New Questions	Collaborative reflection, analysis, discovery, exploration of opinions and points of view directed by student-developed questions	To create a culture of inquiry, to ensure personal relevance, perspective, purpose and direction for thinking, springboards for further actions, research, critical analysis	Use question building assists; question storming, Bloom's Taxonomy, De Bono's Thinking Hats, question matrix, etc.
Higher Order Thinking	Collaborative critical and creative thinking	To raise level of understanding, solve, infer, predict, evaluate, argue, innovate	Stretching, comparing, speculating, predicting, discovering effect and impact, analyzing, synthesizing, evaluating
Interact with an Expert	Confirm, amend, or enhance understandings, explore ideas and interpretations	To exchange ideas, glean new knowledge, gain perspective, add relevance, make real world connections	Interview, consultation, face to face and/or by videoconference, blog, Twitter, Skype, email. Real or virtual field trip, tour

New Problem or Challenge	Stimulate creative collaboration by presenting a new problem or challenge that draws on collective knowledge and expertise	Transfer and apply knowledge, solve problems, develop fluency and flexibility, simulate real life situations, make learning relevant	Introduce an element shift or what if scenario, problems possibilities jigsaw, concept jigsaw, teach or coach,
Thoughtful Writing	Construct and articulate deep understanding through a process of collaborative writing	Consider alternate ideas and perspectives, construct meaning, write collaboratively, stimulate curiosity and interdependent thinking	Concept writing, quick write, chart, letter, wish list, zine, wikis and other Web 2.0 tools
Construct Visuals	Active building of knowledge through visual representations	To clarify concepts, build knowledge, convey meaning on sight, accommodate visual learners, enable those with language or learning deficiencies	Charts, graphs, flow charts, timelines, webs, illustrations, cartoons, comic strips, concept mapping software and other technology applications
ReCreate	Transform information and ideas to a new medium	To present information and ideas via a new medium, build understanding of concepts and events, tap into emotional intelligence, develop empathy	Create a skit, dramatic representation, collage, web, video, game, podcast and other creative technology applications
Sandbox	Play with ideas and information to create or invent something new	Brain based learning, utilizing all senses, stimulates curiosity, wonder and discovery, ownership and freedom of choice, ignites renewed passion for learning	Creative technology applications, music, drama, visual arts, video, tangible manipulatives

Loertscher, David, Koechlin, Carol and Zwaan, Sandi. ***The Big Think: 9 Metacognitive Strategies That Make the Unit End Just the Beginning of Learning.*** Salt Lake City UT: Hi Willow Research and Publishing, 2009.

Chart published with permission from Teacher Librarian

Appendix B

Great Learning Experience for the Learning Commons: 18 Think Models

In this book and others written by Loertscher, Koechlin, and Zwaan, we suggest that classroom learning experiences that venture forth into the world of information and technology be designed differently than traditional short research reports.

Traditional units begin with goals and objectives, building background knowledge, teaching concepts; the assignment often requiring some type of research, a product, some type of sharing, and a grade. In the following sample model, the traditional pattern is the first half of the model. The last half of each model requires learners to confront a higher-level question or activity to combine individual expertise to produce group expertise.

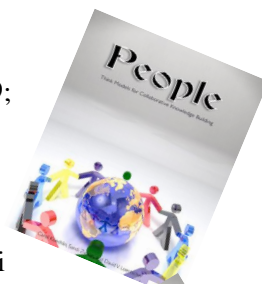
It becomes a matter of what I know, what we know, what I can do, what we can do, how I learn, how we learn followed by a collaborative BIG THINK that asks everyone: “So What?” and “What Next?”

The following books contain numerous fleshed out learning experiences across the grade levels and across disciplines:

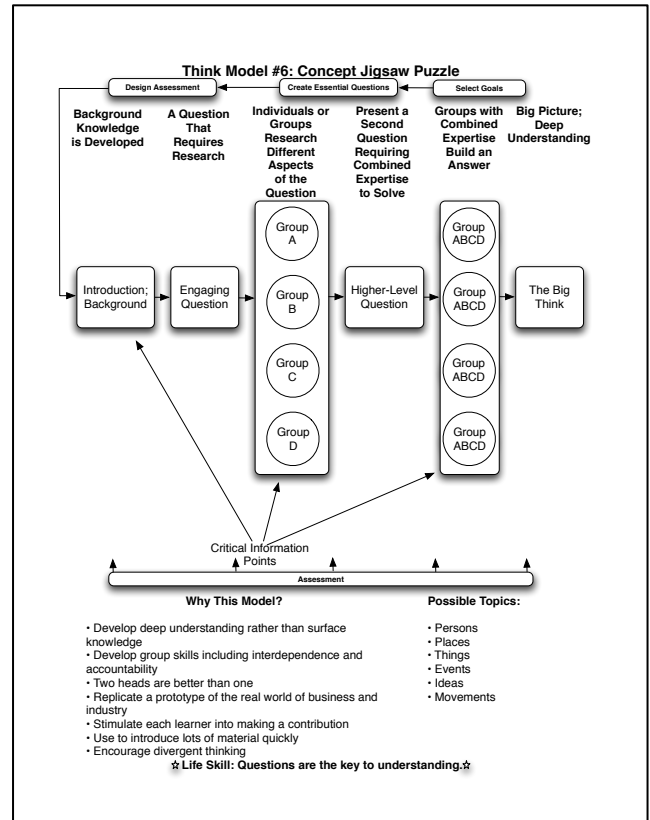
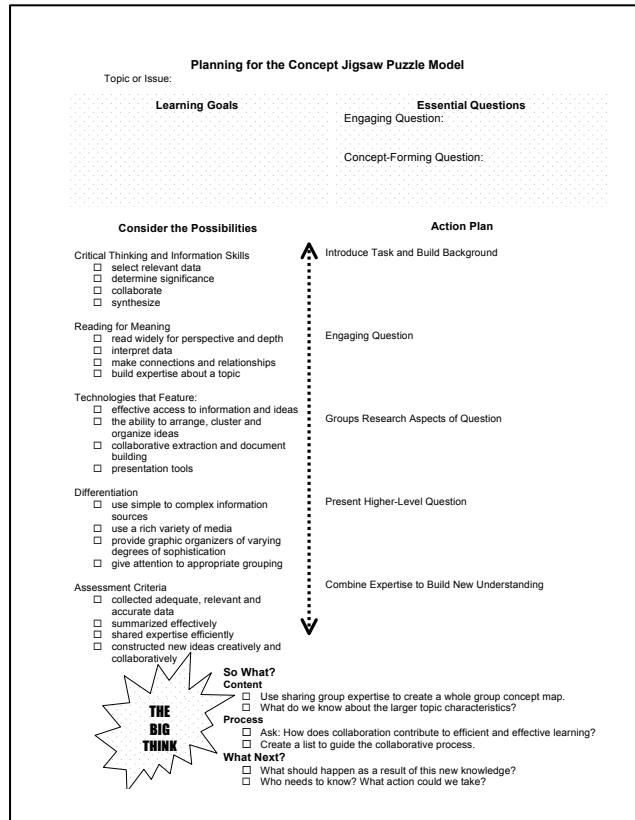
- **Ban Those Bird Units! 15 Models For Teaching and Learning in Information-rich and Technology-Rich Environments.** David V. Loertscher, Carol Koechlin, and Sandi Zwaan; Hi Willow Research and Publishing; 2004; ISBN 978-1-933170-11-4
- **Beyond Bird Units! Thinking and Understanding in Information-Rich and Technology-Rich Environments.** David V. Loertscher, Carol Koechlin, and Sandi Zwaan; Hi Willow Research and Publishing; 2007; ISBN 978-1-933170-37-4;
- **The Big Think: 9 Metacognitive Strategies That Make the End Just the Beginning of Learning.** David V. Loertscher, Carol Koechlin, and Sandi Zwaan; Hi Willow Research and Publishing; 2009; ISBN 978-1-933170-45-9
- **Issues: Think Models for Collaborative Knowledge Building.** Carol Koechlin, Sandi Zwaan, and David V. Loertscher; Hi Willow Research and Publishing; 2009; ISBN: 978-1-933170-48-0
- **People: Think Models for Collaborative Model Building.** Carol Koechlin, Sandi Zwaan, and David V. Loertscher; Hi Willow Research and Publishing; 2009; ISBN: 978-1-933170-46-6
- **Places: Think Models for Collaborative Model Building.** Carol Koechlin, Sandi Zwaan, and David V. Loertscher; Hi Willow Research and Publishing; 2009; ISBN: 978-1-933170-47-3

All are available from <http://lmcsources.com>; <http://amazon.com>; and in Canada from the Ontario Library Association bookstore at:

<http://204.200.206.210/site/showPage.cgi?page=headlinesarchive/headlines0101.html>



Sample Think Model Layout



Handy Planning Page

Think Model

THINK Models in Brief

- **Background to Question Model**—where learners build enough background knowledge on a topic to formulate intelligent and engaging questions for themselves
- **Sensemaking Model**—where the learner takes a group of facts, ideas, or opinions and makes sense through visualization, classification, or synthesis
- **Read, View, and Listen Model**—where learners read, view, and listen widely on a topic and combine what they learn with what others know
- **Advice to Action Model**—where learners consult a wide variety of advice and discern what are the wisest courses of action
- **Compare and Contrast Model**—where people, places, ideas, time periods, issues or solutions to problems are analyzed and compared to gain understanding of varying perspectives
- **Concept Jigsaw Puzzle Model**—where groups build expertise on subtopics and then combine their expertise to build a big picture across what everyone has discovered
- **Problems/Possibilities Jigsaw Puzzle Model**—where learners build expertise in various parts of a problem and then combine their expertise to solve the larger problem.
- **Decision Matrix Model**—where learners assemble facts, ideas, or opinions in a spreadsheet-type of matrix that enables them to do a comparative analysis in order to make an informed rather than a subjective decision
- **Patterns & Trends Matrix Model**—where learners assemble facts, ideas, or opinions in a spreadsheet-type of matrix that enables them to look for patterns or trends across the data collected
- **The Timeline Model**—where learners arrange ideas, events, or data in chronological order to enable comparisons, sequences, contrasts, or developments in order to see a larger picture of what is or was happening.
- **History & Mystery Model**—where learners try to determine what happened, really happened, or find explanations to mysterious happenings
- **Take a Position Model**—where learners take positions based upon careful study rather than upon whim
- **Re-Create Model**—where learners create authentic reproductions whether literary, real, artistically, or creatively
- **Reinvent Model**—where learners try to invent new ways of doing things, processes, environmental systems as close to the real world as possible
- **Learn By Doing**—where learners create apprenticeships, experiments, mockups, or performing tasks in the real or simulated world
- **Teacher-Directed Quest Model**—where learners do research projects under the teacher and learning specialist's direction such as:
 - Online Quest Projects
 - The Report
 - The Research Paper
 - The WebQuest as a Research Model
- **Learner-Directed Quest Model**—where learners take the initiative with adult shadowing of research projects:
 - Hero's Journey
 - Become an Expert
 - I Search
- **Mix It Up! Model**—where learners mix and match any of the models above